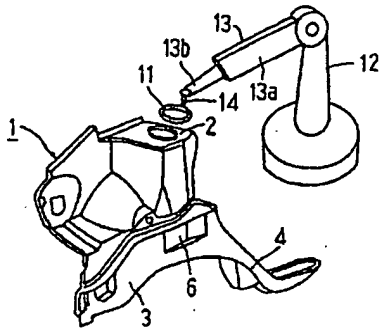
(54) METHOD FOR HARDENING AUTOMOBILE BODY
(11) 6-116630 (A) (43) 26.4.1994 (19) JP
(21) Appl. No. 4-266917 (22) 6.10.1992
(71) DAIHATSU MOTOR CO LTD (72) YUKIO MATSUKAWA(1)
(51) Int. Cl⁵. C21D1/10,C21D9/00

PURPOSE: To provide a hardening method for automobile body capable of making the automobile body light in weight and reducing the production cost.
CONSTITUTION: For example, to the part required with the strength of a support part 2 receiving force from a suspension of a fender apron 1 constituting a front body and bracket fitting part 4 acting the load, etc., partial quenching treatment is executed with a coil 11 for induction hardening fitted to the tip part of an arm in a robot device 12. By this hardening treatment, the strength in the part required with the strength, such as the support part 2, the bracket fitting part 4, is partially improved. In this result, the thickness in the whole steel plate used to the fender apron 1 can be thinned.



(54) METHOD FOR ANNEALING STEEL SHEET
(11) 6-116631 (A) (43) 26.4.1994 (19) JP
(21) Appl. No. 4-263908 (22) 1.10.1992
(71) NIPPON STEEL CORP (72) NORIO NANBU(1)
(51) Int. Cl⁵. C21D1/26,C21D9/663

PURPOSE: To prevent the occurrence of surface contamination due to surface sticking matter, such as carbon precipitation by carbonization of rolling mill oil, at the time of annealing a cold rolled steel sheet in a bell-type annealing furnace and to obtain a cold rolled steel sheet having quality equal to that of conventional cold rolled steel sheet even by the annealing where the electric cleaning line after cold rolling is omitted.
CONSTITUTION: After the rolling mill oil adhering to the surface of a steel sheet is sublimed by holding the steel sheet at a temp. not higher than the carbon precipitation temp. of the rolling mill oil adhering to the surface of the steel sheet, and then the steel sheet is heated up to prescribed annealing temp. The carbon precipitation temp. range of the rolling mill oil varies according to the kind of rolling mill oil. The carbon precipitation temp. range is 400-700° in the case of ester series. Accordingly, when the ester series is used as rolling mill oil, the steel sheet is held at ≦400°C and the rolling mill oil is removed by sublimation. By this method, annealing is performed in the temp. range excluding the carbon precipitation temp. range by the decomposition of the rolling mill oil adhering to the steel sheet surface, and as a result, the precipitation of carbon on the steel sheet surface by annealing can be prevented.

(54) FORMATION OF OXIDATION PASSIVATING FILM HAVING OXIDE CHROMIUM LAYER ON SURFACE AND STAINLESS STEEL EXCELLENT IN CORROSION RESISTANCE
(11) 6-116632 (A) (43) 26.4.1994 (19) JP
(21) Appl. No. 4-266382 (22) 5.10.1992
(71) TADAHIRO OMI (72) TADAHIRO OMI
(51) Int. Cl⁵. C21D1/76,C23C8/18

OHM
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PURPOSE: To form a stainless steel excellent in corrosion resistance to a greater extent than heretofore and an oxidation passivating film having chromium oxide layer on the surface.
CONSTITUTION: An oxidation passivating film, having a layer composed essentially of chromium oxide and formed to ≧20 Å thickness on the outermost surface side, is formed on the surface. A working strain layer consisting of microcrystals is formed on the surface of a base material composed of stainless steel and baking is performed in an inert gas to remove water from the surface of the stainless steel, and then, heat treatment is done at 450-600°C in an atmosphere of a gaseous mixture of inert gas and 500ppb-2% H_2O gas (or 4ppm-1% oxygen gas). It is preferable to form the working strain layer consisting of microcrystals by means of electrolytic combined polishing and to add ≦10% gaseous hydrogen to the above gaseous mixture.